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Applicant EXXONMOBIL UPSTREAM RESEARCH COMPANY		
Title of the Invention THREADED CONNECTIONS AND METHODS FOR FORMING THE THREADED CONNECTIONS		

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RESPONSE TO WRITTEN OPINION MAILED 23 JUNE 2005

This communication is a response under PCT Article 34 to the Written Opinion of the International Searching Authority mailed 23 June 2005 and an interview, which was conducted with the undersigned and the Examiner on 20 July 2005. In the interview, Applicants discussed the prior art rejection and the deficiencies of the prior art, which are discussed further below. Applicants appreciate the Examiner's consultation regarding the prior art and the rejection.

In the Written Opinion, the Examiner indicated the status of various claims. In particular, the Examiner asserted that claim 8 satisfy the novelty, inventive step, and industrial applicability requirements under PCT Article 33(2-4). Further, the Examiner asserted that claim 3 is so inadequately supported by the description that no meaningful opinion could be formed. Finally, the Examiner asserted that claims 1, 2

and 4-7 fail to satisfy the novelty and inventive step requirements under PCT Article 33(2-3), but do satisfy the industrial applicability requirement under PCT Article 33(4). In an attempt to support this assertion regarding claims 1, 2 and 4-7, the Examiner relied upon U.S. Patent No. 5,656,794 to Sell (herein referred to as "Sell").

In this response, Applicants distinguish the claimed subject matter over the art cited in the Written Opinion. Also, Applicants have provided arguments and citations to support claim 3, as originally filed, based on the written description. In addition, Applicants have submitted various amendments to the claims to further clarify certain aspects and clerical errors. Finally, Applicants have added new claims 9-25, which are discussed further below. Hence, Applicants have submitted amendments that clarify the claims along with at least some of the distinctions between the prior art reference cited by the Examiner and subject matter of claims.

To begin, Applicants have amended claims 1, 2 and 4-7 to further clarify that the claimed subject matter, which is not disclosed or suggested by the Sell reference. In contrast to the claimed subject matter, Sell describes a connector for disconnecting and reconnecting a bundled pneumatic supply and signal line. *See* Sell, col. 1, lines 62-66. In Sell, the left tubing end terminal 6 has an alignment pin 9 and is within a sleeve 10 that has threads 16 used to engage right tubing end terminal 6. *See id.* at Figs. 2-4; col. 2, lines 61-67. To engage the tubing end terminals 6, the right tubing end terminal 6 engages the threads 16 of the sleeve 10 and the sleeve shoulder 17 engages the terminal shoulder 18. *See id.* Clearly, the Sell reference does not provide a sleeve that is threaded onto the threads of both tubing end terminals 6. Indeed, the threads of the left tubing end terminal 6 are not utilized to engage the sleeve 10. As such, Sell does not provide or teach the claimed subject matter of independent claims 1, 6 and 7, much less dependent claims 2 and 4.

With regard to claim 3, Applicants respectfully assert that the claimed subject matter is adequately supported by the description. Claim 3 specifically recites "wherein said first set of threads is internally disposed on said first component

connection end and said second set of threads is internally disposed on said second component connection end." This claimed subject matter is supported at least in paragraphs 0008, 0010 and 0011 of the present application along with the originally filed claims. Indeed, each of the paragraphs 0008, 0010 and 0011 specifically describe that the threads may be external or internal to the components. In particular, paragraph 0011 even utilizes the same terminology as the originally filed claim 3. As such, claim 3 is fully supported by the present application and, for at least the arguments presented above, it is believed to satisfy the novelty and inventive step requirements under PCT Article 33(2-3).

Because the cited reference fails to provide or suggest the claimed subject matter, claims 1-7 are believed to satisfy the novelty and inventive step requirements under PCT Article 33(2-3). Further, claim 3 is believed to be adequately supported by the description of the present application. Accordingly, Applicants respectfully request that the international preliminary examination report be reconsidered and revised to state that all claims satisfy the novelty and inventive step requirements.

With regard to new claims 9-25, these claims are directed to certain additional embodiments disclosed in the present application. As an example, claims 9-16 includes recitations of a system, which are similar to claims 1-8 and clearly supported by the specification. *See e.g.* Application; Figs. 1-5B; pages 9-12. Claims 17-25 include recitations of a method, which are also similar to claims 1-8. These claims are again clearly supported in the specification and figures 1-11. *See id.* Accordingly, the new claims are clearly supported by the specification and figures. In addition, these new claims satisfy the novelty and inventive step requirements for at least the reasons provided above in the discussion of claim 1, 2 and 4-7. As such, Applicants respectfully request that the international preliminary examination report state that new claims 9-25 satisfy the novelty and inventive step requirements.

With regard to the amendments to the claims, Applicants have included replacement sheets 14-20 in a clean version along with a marked-up version for the

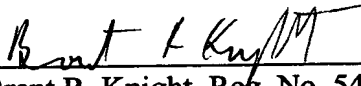
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Examiner. In the claims, Applicants have amended the claims 1-8 to correct antecedent basis and typographical errors. These amendments are clearly detailed in the marked-up version of the claims. Also, as noted above, the new claims are directed to certain additional embodiments disclosed in the present application. As such, because the new claims and amendments to the claims are fully supported by the original specification, Applicants respectfully request the Examiner replace the existing pages 14-17 with the attached replacement sheets 14-20. Also, for the abstract, Applicants respectfully request the Examiner replace the existing page 18 with the attached replacement sheet 21.

In conclusion, Applicants respectfully request that the international preliminary examination report state that all claims satisfy the novelty and inventive step requirements. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,


Date: July 25, 2005


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Monica J. Stansberry

CLAIMS

We Claim:

1. A threaded connection for connecting a first component and a second
5 substantially cylindrical shaped components component in having a pre-defined axial
alignment, said connection comprising:
- A. (i) a first set of threads provided on a first component connection end
of said first component,
- B. and
- 10 (ii) a second set of threads provided on a second component connection end of said
second component,
- (iii) ~~such that when~~ wherein said first and second components are
disposed in said pre-defined axial alignment and said first component
connection end abuts said second component connection end, said first set of
15 threads and said second set of threads are synchronous; and
- B.C. a connection collar adapted to be:
- (i) threaded onto said first component connection end before said first
component connection end abuts said second component connection end, and
- (ii) threaded onto said second component connection end, after said second
20 component connection end abuts said first component connection end and said first
and second components are disposed in said pre-defined axial alignment, while said
pre-defined axial alignment is maintained by said connection collar being threaded
onto said first set of threads and said second set of threads.
2. The threaded connection of claim 1 wherein said first set of threads is
externally disposed on said first component connection end and said second set of
threads is externally disposed on said second component connection end.
3. The threaded connection of claim 1 wherein said first set of threads is
internally disposed on said first component connection end and said second set of
threads is internally disposed on said second component connection end.

4. The threaded connection of claim 1 wherein said first component has one or more openings therein that align with one or more openings in said second component when said first and second components are disposed in said pre-defined axial alignment.

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5. The threaded connection of claim 4 wherein an item is disposed through at least one of said openings in said first component and through said aligned opening in said second component.

6. A threaded connection for connecting a first component and a second substantially cylindrical-shaped components~~component in~~ having a pre-defined axial alignment, said connection comprising:

- 5 A. (i) a first set of threads provided on a first component connection end of said first component,
- (ii) a second set of threads provided on a second component connection end of said second component, and wherein
- (iii) ~~said first and second components being disposed such that~~ (i) said first component connection end is separated from said second component connection end by such a distance that if said first set of threads and said second set of threads were continuous through said distance they would form a continuous-thread path between said first component and said second component, and (ii) said first and second components are disposed in said pre-defined axial alignment; and
- 10 B. a connection collar adapted to be:
- (i) threaded onto said first component connection end before said first component connection end is separated from said second component connection end by said distance, and (ii)
- 15 threaded onto said second component connection end; after said first component connection end is separated from said second component connection end
- 20 by a said distance and said first and second components are disposed in said pre-defined axial alignment, while, wherein the connection collar maintains said pre-

defined axial alignment is maintained by said connection collar being threaded onto said first set of threads and said second set of threads.

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7. A threaded connection for connecting a first component and a second substantially cylindrical shaped components~~component~~ having a pre-defined axial alignment, said connection comprising:

5

A. — a spacer having a first spacer end and a second spacer end,

B. — (i) a first set of threads having a first timing and provided on a first component connection end of said first component, and

(ii) a second set of threads having a second timing and provided on a second component connection end of said second component, wherein

10

(iii) ~~such that when said first component connection end abuts said first spacer end of said spacer and said second component connection end abuts said second spacer end of said spacer, when and~~ said first and second components are disposed in a said pre-defined axial alignment, ~~said first set of threads and said second set of threads are synchronous; and~~

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C. — a connection collar adapted to be: (i) threaded onto said first component connection end before said first component connection end abuts said first spacer end and said second spacer end abuts said second component connection end, and (ii)

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threaded onto said second component connection end; after said second component connection end abuts said second spacer end and said first spacer end abuts said first component connection end and ~~said first and second components are disposed in said pre-defined axial alignment, while said~~ connection collar maintains said pre-defined axial alignment is maintained by said connection collar being threaded onto said first set of threads and said second set of threads.

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8. A threaded connection for connecting first and second substantially cylindrical-shaped components having a pre-defined axial alignment, said connection comprising:

- A. a spacer having a threaded end and a top end,
- 5 B. (i) a first set of threads having a first timing and provided on a first component connection end of said first component, and
 (ii) a second set of threads having a second timing and provided on a second component connection end of said second component,
 (iii) such that when said first component connection end is attached to
 10 said threaded end of said spacer and said second component connection end abuts said top end of said spacer, when said first and second components are disposed in said pre-defined axial alignment, said first set of threads and said second set of threads are synchronous; and
- C. a connection collar adapted to be (i) threaded onto said first component
 15 connection end before said first component connection end is attached to said threaded end of said spacer and said top end of said spacer abuts said second component connection end, and (ii) threaded onto said second component connection end, after said second component connection end abuts said top end of said spacer and said threaded end of said spacer is attached to said first
 20 component connection end and said first and second components are disposed in said pre-defined axial alignment, while said pre-defined axial alignment is maintained.

- 9. A system comprising:
- 25 a first component having a first set of threads;
- a second component having a second set of threads; and
- a connection collar configured to:
- thread onto the first component before the first component connection end abuts the second component connection end, and
- 30 thread onto the second component connection end after the second component connection end abuts the first component connection end to

maintain a pre-defined axial alignment with the connection collar being threaded onto the first set of threads and the second set of threads.

10. The system of claim 9 wherein the first set of threads are disposed on an
5 external surface of the first component and the second set of threads are disposed on an external surface of the second component.

11. The system of claim 10 further comprising:
a first notched portion of the first component having the first set of threads
10 disposed therein;
a second notched portion of the second component having the second set of threads disposed therein; and
the connection collar configured to be disposed in the first notched portion of the first component and thread onto the second set of threads within the second
15 notched portion of the second component.

12. The system of claim 9 wherein the first component and the second component are covered in suitable coating of a material to provide protection from galling or corrosion.

20 13. The system of claim 9 further comprising:
a first plurality of openings in the first component;
a second plurality of openings in the second component, wherein the first plurality of openings and the second plurality of openings align to form one or more
25 passages through the first component and the second component.

14. The system of claim 9 wherein the one or more passages comprise at least one of an electrical plug type connection, sealed fluid passage, unsealed fluid passage, wireline passage, visualization passage for optical access, laser beam communication
30 passage, ball or plug passage, and any combination thereof.

15. The system of claim 9 further comprising:
a first seal configured to be disposed between the first component and the connection collar; and
a second seal configured to be disposed between the second component and the connection collar, wherein the first seal and second seal isolate the first set of threads and the second set of threads from a region external to connection collar.
16. The system of claim 9 further comprising:
a nipple associated the first component; and
a nipple recipient associated with the second component, wherein the nipple and nipple recipient are configured to maintain pre-defined axial alignment between the first component and the second component.
17. A method comprising:
providing a first component having a first set of threads and a second component having a second set of threads;
threading a connection collar onto the first component;
abutting the first component to the second component in a predefined axial alignment;
threading the connection collar onto the second component after the second component abuts the first component to maintain the pre-defined axial alignment by the connection collar being threaded onto the first set of threads and the second set of threads.
18. The method of claim 17 wherein the first set of threads and the second set of threads are synchronous.
19. The method of claim 17 wherein the first set of threads are disposed on an external surface of the first component and the second set of threads are disposed on an external surface of the second component.

- 20 -

20. The method of claim 19 wherein the connection collar is disposed within a notched portion of the first component and threadably engaged with a notched portion of the second component.

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21. The method of claim 17 comprising coating the first component and the second component with a suitable coating of a material to provide protection from galling or corrosion.

10 22. The method of claim 17 further comprising forming at least one passage through a first plurality of openings in the first component and a second plurality of openings in the second component.

15 23. The method of claim 22 further comprising disposing an item into the at least one passage.

24. The method of claim 17 wherein threading the connection collar onto the second component forms a sealed internal region between the connection collar and the first and second components.

20

25. The method of claim 17 further comprising securing a nipple associated with the first component into a nipple recipient associated with the second component to maintain pre-defined axial alignment between the first component and the second component.

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CLAIMS

We Claim:

1. A threaded connection for connecting a first component and a second
5 component in a pre-defined axial alignment, said connection comprising:
 - A. a first set of threads provided on a first component connection end of
said first component,
 - B. a second set of threads provided on a second component connection
10 end of said second component, wherein said first and second components are disposed
in said pre-defined axial alignment and said first component connection end abuts
said second component connection end, said first set of threads and said second set of
threads are synchronous; and
 - C. a connection collar adapted to be:
 - (i) threaded onto said first component connection end before said
15 first component connection end abuts said second component connection end, and
 - (ii) threaded onto said second component connection end, after said
second component connection end abuts said first component connection end and said
first and second components are disposed in said pre-defined axial alignment, while
said pre-defined axial alignment is maintained by said connection collar being
20 threaded onto said first set of threads and said second set of threads.
2. The threaded connection of claim 1 wherein said first set of threads is
externally disposed on said first component connection end and said second set of
threads is externally disposed on said second component connection end.
- 25 3. The threaded connection of claim 1 wherein said first set of threads is
internally disposed on said first component connection end and said second set of
threads is internally disposed on said second component connection end.
4. The threaded connection of claim 1 wherein said first component has one or
more openings therein that align with one or more openings in said second component
30 when said first and second components are disposed in said pre-defined axial
alignment.

5. The threaded connection of claim 4 wherein an item is disposed through at least one of said openings in said first component and through said aligned opening in said second component.

5

6. A threaded connection for connecting a first component and a second component in a pre-defined axial alignment, said connection comprising:

a first set of threads provided on a first component connection end of said first component,

10 a second set of threads provided on a second component connection end of said second component, wherein said first component connection end is separated from said second component connection end by such a distance that if said first set of threads and said second set of threads were continuous through said distance they would form a continuous-thread path between said first component and said second
15 component, and said first and second components are disposed in said pre-defined axial alignment; and

a connection collar adapted to be:

threaded onto said first component connection end before said first component connection end is separated from said second component connection end
20 by said distance, and

threaded onto said second component connection end after said first component connection end is separated from said second component connection end by said distance, wherein the connection collar maintains said pre-defined axial alignment by said connection collar being threaded onto said first set of threads and
25 said second set of threads.

7. A threaded connection for connecting a first component and a second component, said connection comprising:

a spacer having a first spacer end and a second spacer end,

30 a first set of threads having a first timing and provided on a first component connection end of said first component, and

a second set of threads having a second timing and provided on a second component connection end of said second component, wherein said first component connection end abuts said first spacer end and said second component connection end abuts said second spacer end and said first and second components are disposed in a pre-defined axial alignment; and

a connection collar adapted to be:

threaded onto said first component connection end before said first component connection end abuts said first spacer end and said second spacer end abuts said second component connection end, and

threaded onto said second component connection end after said second component connection end abuts said second spacer end and said first spacer end abuts said first component connection end and said connection collar maintains said pre-defined axial alignment by said connection collar being threaded onto said first set of threads and said second set of threads.

8. A threaded connection for connecting first and second substantially cylindrical-shaped components having a pre-defined axial alignment, said connection comprising:

A. a spacer having a threaded end and a top end,

B. (i) a first set of threads having a first timing and provided on a first component connection end of said first component, and

(ii) a second set of threads having a second timing and provided on a second component connection end of said second component,

(iii) such that when said first component connection end is attached to said threaded end of said spacer and said second component connection end abuts said top end of said spacer, when said first and second components are disposed in said pre-defined axial alignment, said first set of threads and said second set of threads are synchronous; and

C. a connection collar adapted to be (i) threaded onto said first component connection end before said first component connection end is attached to said

threaded end of said spacer and said top end of said spacer abuts said second component connection end, and (ii) threaded onto said second component connection end, after said second component connection end abuts said top end of said spacer and said threaded end of said spacer is attached to said first component connection end
5 and said first and second components are disposed in said pre-defined axial alignment, while said pre-defined axial alignment is maintained.

9. A system comprising:
a first component having a first set of threads;
10 a second component having a second set of threads; and
a connection collar configured to:
thread onto the first component before the first component connection end abuts the second component connection end, and
thread onto the second component connection end after the second
15 component connection end abuts the first component connection end to maintain a pre-defined axial alignment with the connection collar being threaded onto the first set of threads and the second set of threads.

10. The system of claim 9 wherein the first set of threads are disposed on an
20 external surface of the first component and the second set of threads are disposed on an external surface of the second component.

11. The system of claim 10 further comprising:
a first notched portion of the first component having the first set of threads
25 disposed therein;
a second notched portion of the second component having the second set of threads disposed therein; and
the connection collar configured to be disposed in the first notched portion of the first component and thread onto the second set of threads within the second
30 notched portion of the second component.

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12. The system of claim 9 wherein the first component and the second component are covered in suitable coating of a material to provide protection from galling or corrosion.

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13. The system of claim 9 further comprising:
a first plurality of openings in the first component;
a second plurality of openings in the second component, wherein the first plurality of openings and the second plurality of openings align to form one or more passages through the first component and the second component.

10

14. The system of claim 9 wherein the one or more passages comprise at least one of an electrical plug type connection, sealed fluid passage, unsealed fluid passage, wireline passage, visualization passage for optical access, laser beam communication passage, ball or plug passage, and any combination thereof.

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15. The system of claim 9 further comprising:
a first seal configured to be disposed between the first component and the connection collar; and
a second seal configured to be disposed between the second component and the connection collar, wherein the first seal and second seal isolate the first set of threads and the second set of threads from a region external to connection collar.

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16. The system of claim 9 further comprising:
a nipple associated the first component; and
a nipple recipient associated with the second component, wherein the nipple and nipple recipient are configured to maintain pre-defined axial alignment between the first component and the second component.

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30 17. A method comprising:

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providing a first component having a first set of threads and a second component having a second set of threads;

threading a connection collar onto the first component;

5 abutting the first component to the second component in a predefined axial alignment;

threading the connection collar onto the second component after the second component abuts the first component to maintain the pre-defined axial alignment by the connection collar being threaded onto the first set of threads and the second set of
10 threads.

18. The method of claim 17 wherein the first set of threads and the second set of threads are synchronous.

15 19. The method of claim 17 wherein the first set of threads are disposed on an external surface of the first component and the second set of threads are disposed on an external surface of the second component.

20 20. The method of claim 19 wherein the connection collar is disposed within a notched portion of the first component and threadably engaged with a notched portion of the second component.

21. The method of claim 17 comprising coating the first component and the second component with a suitable coating of a material to provide protection from
25 galling or corrosion.

22. The method of claim 17 further comprising forming at least one passage through a first plurality of openings in the first component and a second plurality of openings in the second component.

- 20 -

23. The method of claim 22 further comprising disposing an item into the at least one passage.

5 24. The method of claim 17 wherein threading the connection collar onto the second component forms a sealed internal region between the connection collar and the first and second components.

10 25. The method of claim 17 further comprising securing a nipple associated the first component into a nipple recipient associated with the second component to maintain pre-defined axial alignment between the first component and the second component.

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ABSTRACT

Threaded connections whereby off-center axial alignment of connected components is maintained, and methods of forming same, are provided. In one embodiment, threads on one connection component are timed to match the timing of the threads on the other connection component. The one component has a connection sleeve screwed thereon. Once the one component and the other component are mated in the desired axial alignment and such that the threads on each join to form a continuous, unbroken thread, the connection sleeve is screwed onto the other component to form the threaded connection.